



Computer Associates®

White Paper

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# **Delivering ITIL Best Practices Through Unicenter® ServicePlus**

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John Kampman  
Alan Kasper  
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## Contents

<b>Introduction</b>	<b>3</b>
<b>ITIL and Service Management</b>	<b>3</b>
<b>Unicenter® Serviceplus Service Desk and ITIL</b>	<b>4</b>
Overview	4
Benefits	5
<b>Incident Management</b>	<b>5</b>
Incident Management and Unicenter ServicePlus Service Desk	5
Key Performance Indicators	6
Benefits	6
<b>Problem Management</b>	<b>6</b>
Problem Management and Unicenter ServicePlus Service Desk	6
Key Performance Indicators	6
Benefits	7
<b>Change Management</b>	<b>7</b>
Change Management and Unicenter ServicePlus Service Desk	8
Key Performance Indicators	8
Benefits	9
<b>Configuration Management</b>	<b>9</b>
Configuration Management and Unicenter ServicePlus Service Desk	9
Key Performance Indicators	10
Benefits	10
<b>Conclusion</b>	<b>11</b>

## Introduction

On-demand computing, the ability to leverage IT resources as needed for enhanced efficiency, is a great idea. However, in order to turn it into reality, you need to automate the management of the IT infrastructure in a business-relevant way. This requires dynamic, flexible, automated business processes. These processes must also be applicable, efficient, effective and robust.

This is where best practices come into play. Best practices serve as a guide to designing IT management processes that can help increase the overall efficiency, reduce costs and align IT with the business.

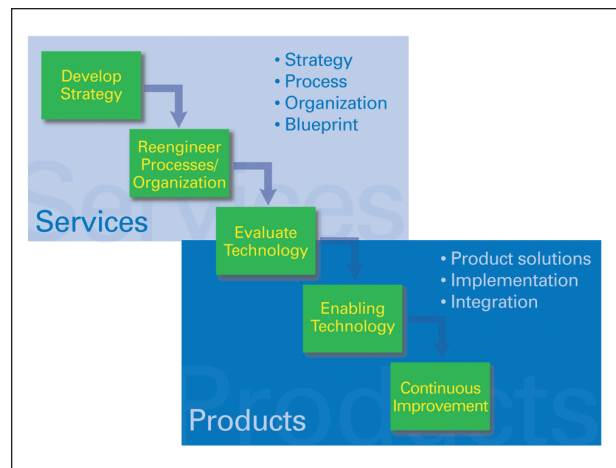
IT Infrastructure Library (ITIL) definitions serve as an example of best practices that can guide users to improve operational efficiencies. More than a set of standards for implementing products, ITIL is a methodology that requires a rethinking of methods and practices. The ITIL road map is defined as follows:

- The ITIL consists of a range of modules aimed at effective IT service management. The modules provide guidelines for best practices in IT service management.
- Using ITIL, an IT organization can facilitate the quality management of IT services, improve efficiency, increase effectiveness and reduce risks.
- ITIL processes should not dictate, but rather underpin the business processes of an organization. IT service providers strive to improve the quality of service while reducing or maintaining costs.

These best practices can help you to improve the quality of your IT environment and business at various stages. However, in order to make this happen you first need tools that support the automation of these process definitions.

Computer Associates International, Inc. (CA) assists in meeting this objective by providing products and tools that enable you to implement ITIL-based best practices throughout your organization, particularly in the areas of service and security management.

This paper focuses on the ITIL support offered by CA's Unicenter® ServicePlus suite of solutions, which forms the backbone of CA's Unicenter® Service Management strategy. (For information on other CA Best Practices, please refer to CA's white paper: "Delivering Best Practices for Complex IT Environments.")



*ITIL Best Practices to Come*

## ITIL and Service Management

ITIL for IT service management began in 1989, growing out of an effort by the United Kingdom's government to improve IT service management. It is now embraced by industries worldwide. While ITIL goes beyond service management, it features two volumes on the service management discipline at its core: service support and service delivery; which were subsequently rewritten between 2000 and 2001.

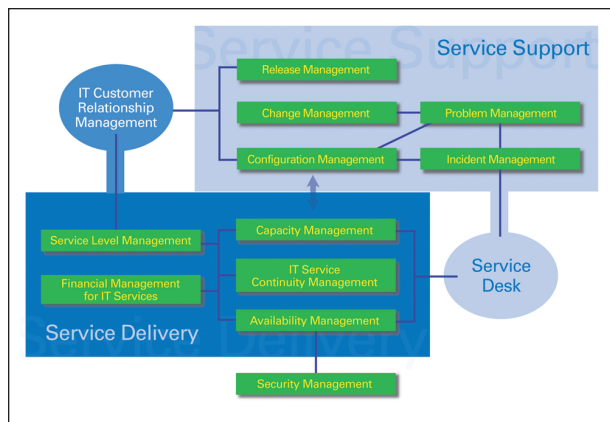
**Service support** includes five disciplines that provide flexibility and stability for delivering IT services to the business:

- Incident management
- Problem management
- Change management
- Release management
- Configuration management

**Service delivery** includes five disciplines that support quality and cost-effective IT services to the business:

- Service level management
- Availability management
- Capacity management
- Financial management for IT services
- IT service continuity management

The service support and service delivery disciplines combine to form the service management capability of an organization. There are complex interrelationships among all 10 of the service management disciplines as they interact to support the overall objective of ensuring that the IT infrastructure delivers high levels of service to the business.



### Service Management

CA offers a comprehensive suite of Unicenter Service Management solutions that address both service support and service delivery requirements.

CA's Unicenter® ServicePlus Service Desk specifically addresses all five of the service support disciplines including: incident, problem, change, release and configuration management. Of the five service delivery disciplines, it specifically addresses service level management. CA's service delivery solutions, which are companion products to Unicenter® ServicePlus Service Desk, address many aspects of service delivery including comprehensive service level management and financial management.

In addition to the specific ITIL processes discussed herein, Unicenter ServicePlus Service Desk supports service level management through the application of following features:

- Service types (including service level agreement (SLA) violation and escalation functionality)
- Functionality associated with incident area and problem area
- Callback flag functionality
- Automated assignment
- Scoreboard
- Reporting
- Automated notification

### Unicenter ServicePlus Service Desk and ITIL

The service desk is one of the most important functions for customers and end users. It is the single point of entry to obtain support for one's environment or any process upon which one depends.

The service desk is also very important from the IT department's perspective, because it is the key communication tool that enables service and support functions. Given that ITIL centers on communication, the ability to inform people about status, changes and their subsequent effect on business is critical.

CA introduced service desk-related products in 1999 to help users implement ITIL-compliant service desks. Today, with the latest release of Unicenter ServicePlus solutions, this product offering has matured and customers worldwide are reaping the benefits. Unicenter ServicePlus Service Desk provides a comprehensive set of tools and methods to support the ITIL service desk function, end users, support analysts and support engineers out of the box.

New service requests or questions can be submitted to the service desk via a number of mechanisms, including:

- End-user web interface
- Analyst-facing web interface
- Installed client interface
- Email
- Telephony integration
- System management tools
- Web services
- APIs

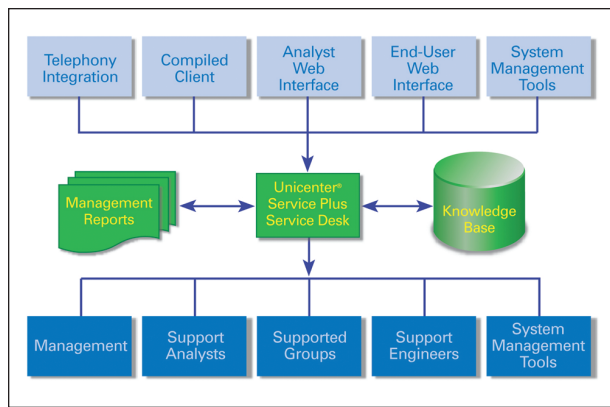
Once new requests are assigned to a support analyst, various facilities are made available to inform the end user about the status of his or her request, incident or change. The following mechanisms can be leveraged to provide this information:

- Email
- Fax
- Notification message
- Pager/beeper
- Instant messenger

Unicenter ServicePlus Service Desk automates integration with other ITIL processes using predefined business rules, which allow the service desk to integrate the incident, problem and change management processes seamlessly.

In addition, powerful self-service capabilities within Unicenter ServicePlus Service Desk assist the service desk process. Provided via a web interface, these capabilities include:

- Knowledge search and candidate knowledge submission
- Current system status
- Open/update/close requests and incidents
- Password reset



*Unicenter ServicePlus Service Desk*

### Benefits

Implementing Unicenter ServicePlus Service Desk in an ITIL environment provides many benefits to the IT department, including:

- Improved end-user service, perception and satisfaction
- Better managed infrastructure and control
- More effective and efficient use of support resources
- Enhanced management information for better decision support
- A self-service/support environment that helps reduce costs and improve service

### Incident Management

The IT Service Management Forum (itSMF) defines an incident as, "Any event which is not part of the standard operation of a service and which causes, or may cause, an interruption to, or a reduction in, the quality of that service".

The ITIL incident-management process helps to avoid these situations and improves control of the incidents once they occur. This process enables support organizations to manage these situations in a structured way, with minimum impact to the service or business goals. The incident life cycle consists of identification, classification, diagnosis, escalation and, finally, resolution.

The goal is to restore normal service operation as quickly as possible with minimum disruption to the business, ensuring the highest possible levels of availability and service.

#### Incident Management and Unicenter ServicePlus Service Desk

Unicenter ServicePlus Service Desk is fully capable of supporting the incident-management process. Once procedures are agreed upon, this product helps drive this ITIL process.

Unicenter ServicePlus Service Desk becomes the gathering point for all information coming from the infrastructure, end users and third-party vendors. It uses the following sources to create new incidents:

- "Service aware" technology
- Web services
- Web interfaces
- Email
- Command line interfaces
- Compiled client
- CTI and AVR technology
- Network and system management environments
- Unicenter® Network and Systems Management
- BMC Patrol
- HP OpenView
- Tivoli Enterprise Manager

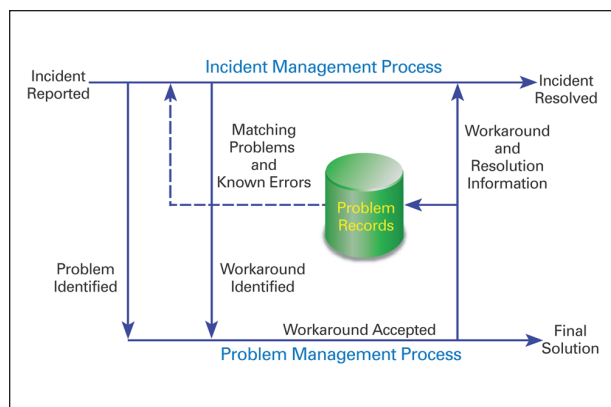
Using the predefined business rules, new incidents can be assigned automatically to a group or an individual within the support organization. This automatic assignment can be based on:

- Configuration item (CI)
- Urgency
- Location
- Skill set of the individual
- Location of the affected end user

At the time an incident is opened, the appropriate SLA is automatically invoked, ensuring that the right level of attention is given to it and proper notification is provided to business users of the configuration item. Note that configuration items are typically defined as hardware, software or composite items, but in fact can consist of virtually anything, including a facilities item.

The support analyst can access all relevant information regarding the incident. He or she can look up details about the affected end user or organization, along with details about the affected configuration item. These details provide location and service information as well as incident, problem and change management history.

Incident analysis may reveal a workaround. Using Unicenter® ServicePlus Knowledge Tools, a support analyst can attach a workaround to an incident and close it. Alternatively, the support analyst can open a problem record or change within Unicenter ServicePlus Service Desk as required. Note that support analysts can submit candidate solutions to the knowledge base, which in turn can improve the success rate of self-service. The following figure highlights these relationships:



*Incident Management/Problem Management Processes*

### Key Performance Indicators

The incident management approach within Unicenter ServicePlus Service Desk provides key performance indicators (KPIs) that allow IT organizations to improve their decision making.

For example, KPIs might indicate the number of incidents resolved by the use of Unicenter® Remote Control. In such a case, customer visits and the associated cost of the visits can be avoided. This might lead to a decision to enhance the second level support group to manage more of these types of incidents.

Other KPIs that Unicenter ServicePlus Service Desk can deliver include:

- Total number of incidents managed
- Mean elapsed time to achieve incident resolution or circumvention, broken down by impact code
- Percentage of incidents handled within agreed upon response time
- Percentage of incidents closed by the service desk without reference to other levels of support
- Incidents processed per support analyst

### Benefits

In addition to supporting the IT infrastructure and users, there are other important benefits that Unicenter ServicePlus Service Desk provides to better support the incident management process:

- Elimination of lost incidents and service requests
- Better monitoring and escalation against appropriate SLAs
- Improved proactive identification of possible disruptions
- Effective use of support staff
- Seamless integration with problem, change and configuration management processes
- Better control of the configuration management database (CMDB), and its status and information
- Reduced business impact

## Problem Management

The problem management process is critical to all other processes and to the business as a whole. ITIL defines a problem as: "The underlying cause of one or more Incidents. It will become a Known Error when the root cause is known and a temporary or a permanent alternative has been identified."

According to itSMF, the goal of the problem management process is to "minimize the adverse effect on the business of incidents and problems caused by errors in the infrastructure, and to proactively prevent the occurrence of incidents, problems and errors."

### Problem Management and Unicenter ServicePlus Service Desk

ITIL problem management processes are enabled in the Unicenter ServicePlus Service Desk environment. Problem management is tied to incident, change and configuration management. It is also supported by integration with Unicenter ServicePlus Knowledge Tools, which can be used to store known errors, problem descriptions and possible workarounds. This information is available to both end users and support analysts.

Captured incidents need to be reviewed for similarities and the root causes must be identified. If this activity fails, the problem needs to be reviewed by others to categorize it and apply the appropriate follow-up activities. Unicenter ServicePlus Service Desk supports the following methods of analysis in order to discover problems and/or known errors:

- Analyzing incidents as they occur (reactive problem management)
- Analyzing incidents over differing time periods (proactive problem management)
- Analyzing the IT infrastructure
- Analyzing the knowledge database
- Analyzing the track record of newly introduced products/devices by vendor

Unicenter ServicePlus Service Desk allows support analysts to transform incidents into problem records as needed. As a result, the support analyst applies business rules to the newly created problem, helping the service desk to track, notify, escalate, route, solve, prioritize and monitor SLAs.

As desired, support analysts can attach related incidents to an existing problem record. This parent/child relationship automatically applies appropriate business rules to the children. Based on gathered information, the support analyst can also attach a document to the problem record or define a new Unicenter ServicePlus Knowledge Tools "document" defining the situation as a known error.



## Key Performance Indicators

The problem management process is designed to help organizations avoid SLA violations, yet it is difficult to get KPIs directly from the process metrics in order to show how the process is performing. Most of the KPI input comes from the other ITIL processes. For this reason, Unicenter ServicePlus Service Desk stores various metrics in its database. Some are specific to the targeted process and some are generic, covering the entire service management environment.

These metrics drive the following KPIs for reporting purposes:

- The number of Requests For Change (RFCs) submitted and the impact of those RFCs on the availability and reliability of the services covered
- The amount of time worked on investigations and diagnoses per organizational unit or supplier, split by problem types
- The number and impact of incidents occurring before the root problem is closed or a known error is confirmed
- The plans for resolution of open problems with regard to resources
- A short description of actions to be undertaken
- The total elapsed time on closed problems
- The elapsed time-to-date on outstanding problems
- The mean and maximum elapsed time to close problems or confirm known errors, from the time of raising the problem record, by impact code and support group (including vendors)
- Any temporary resolution action
- The expected resolution time for outstanding problems
- The total elapsed time for closed problems

Unicenter ServicePlus Service Desk provides these metrics via standard reports. Metrics reporting can be enhanced via CA's Unicenter® Management Data Integrator, a tool that allows you to create compound data objects and reports extracted from multiple data sources.

To extend the use of KPIs, one can run regular audits against the problem management process. These audits will provide more information about whether the overall procedures are being followed by all teams involved.

## Benefits

The benefits of using Unicenter ServicePlus Service Desk for problem management can be numerous when using a formally implemented process company-wide. They include:

- Improved IT service quality. Problem management helps generate a cycle of rapidly enhanced IT service quality. High-quality reliable service is good for business users, and good for the productivity and morale of IT service providers.
- Incident volume reduction, which instantiates proactive management.
- Permanent solutions. The frequency and impact of problems and known errors will gradually reduce.
- Improved organizational learning. The problem management process is based on the concept of learning from past experience. The process provides the historical data to identify trends, and the means to prevent and/or reduce the impact of failures, improving user productivity.
- Better first-time fix rate. Problem management enables a better first-time fix rate of service desk incidents, through capturing and retaining incident resolution and workaround data, and making it available within a knowledge database.

## Change Management

Within the ITIL methodology, any addition, move or removal of approved hardware, network, software, environment or documentation is considered a change. Changes might be the result of problems tracked by the problem management process or the output of other ITIL processes. Both sources require a strict process that supports the following key items:

- RFCs
- Change Advisory Board (CAB)
- Basic change
- Standard change
- Urgent change

Managing this change can be difficult, and if not performed properly, can negatively impact your IT infrastructure. Any failure that does not have a well-defined back-out plan will affect the business directly and immediately. The process demands a robust change management product that can enforce workload management, notification, escalation and communication.

Unicenter ServicePlus Service Desk is an ideal solution, as it drives this process from beginning to end using predefined business rules. It helps organizations achieve the ultimate goal of ensuring "...that standardized methods and procedures are used for efficient and prompt handling of all changes, in order to minimize the adverse impact of any change-related incidents upon service quality." (Source: IT Service Management Forum

## **Change Management and Unicenter ServicePlus Service Desk**

Like the incident and problem management processes, change management integrates seamlessly with the other processes within Unicenter ServicePlus Service Desk. Change management in particular relies heavily on the CMDB feature of Unicenter ServicePlus Service Desk. Based on the information stored in the CMDB, one can determine the technical and business impact that a change will have on the IT infrastructure.

Based on the “change category,” the change manager is also capable of applying business rules to each and every individual change opened in the system. These rules apply the following attributes to newly opened changes:

- Routing
- Work flow rules
- Notification
- Escalation
- SLAs
- Status
- Assignment

Such attributes can be used to guide the change through the change management process and to make sure that it will not mar the business in any way.

Unicenter ServicePlus Service Desk provides a comprehensive work flow engine, which allows people to schedule their work and view their workloads. It also allows workload performance tracking by support analyst to determine whether an analyst’s performance is affecting the business. These business rule violations lead to escalation and notification in order to start corrective actions.

A well-prepared change order contains a backout plan, which enables the infrastructure to return to its previous state. Unicenter ServicePlus Service Desk facilitates this through the use of attachments against the change orders. This guarantees that instructions are attached to the original change order so the back-out plan can be used for review purposes at a later point.

All of the above apply to any change submitted through the change process. With work flow rules (business rules), one can define the right steps for each change. For example, an installation of a new printer may be a routine task that does not require budget approval. For this activity, a change category is defined to initiate the change as soon as it is entered in the system.

A change order with a high impact on the infrastructure and business cannot be treated in the same manner as a routine task such as installing a printer. In this case, the requestor creating the change order adds the RFC document as an attachment to the newly opened change order. The first task in the work flow is the meeting of the CAB. All members are notified of this new change and can access the RFC document. After the CAB has approved the change, the work flow will continue. If there is no approval, the change will be rejected.

After the change is implemented, it links to other ITIL processes such as release management and configuration management to reflect the new status. These tasks can be automated or manual. In either case, change management provides the required input for these updates.

### **Key Performance Indicators**

In order to ensure that the change management process is effective, organizations need a multitude of performance indicators. Some of them can be derived from other ITIL processes, such as service level management, availability management and capacity management.

Unicenter ServicePlus Service Desk provides the change management process with the following KPIs regarding the process itself:

- The number of changes implemented in the period, both in total and categorized by CI, configuration type, service and so on
- A breakdown of the reasons for change (end-user requests, enhancements, business requirements, service call/incident/problem fixes, procedures/training improvement and so on)
- The number of successful changes
- The number of changes backed-out, together with the reasons (such as incorrect assessment, bad build and so on)
- The number of incidents traced to changes (broken down by problem severity levels) and the reasons (such as incorrect assessment, bad build and so on)
- The number of RFCs (and any trends in origination)
- The number of implemented changes reviewed and the size of review backlogs (broken down over time)
- High incidences of RFCs/problems relating to one CI citing the reasons for the high incidences (such as volatile end-user requirement, fragile component, bad build and others)
- History and trends from previous periods (last period, last year) for comparative purposes
- The number of RFCs rejected
- The proportion of implemented changes that are not successful (in total and broken down by CI)



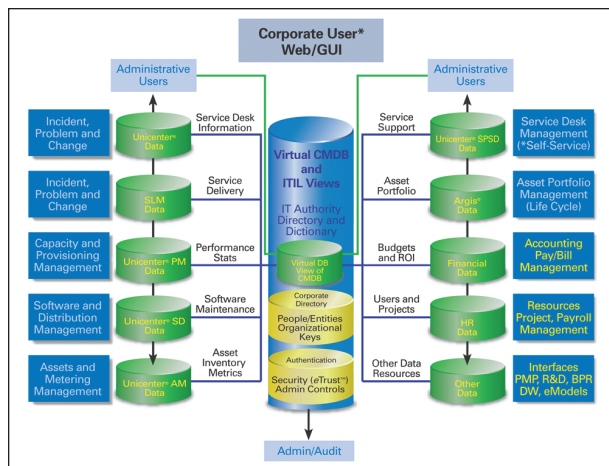
## Benefits

Using Unicenter ServicePlus Service Desk to support the change management process provides the IT department with an integrated toolset to support the business and optimal usage of available resources within the environment. Additionally, the following benefits are credited to the change management process:

- Improved alignment of IT to business needs
- Increased visibility and communication
- Reduced impact of change on the IT service
- Improved user productivity through reduced disruption and higher quality of services
- Enhanced ability to absorb a large volume of changes
- Better assessment of the cost of proposed changes before incurred

## Configuration Management

All of the aforementioned ITIL processes within Unicenter ServicePlus Service Desk share a common configuration management database (CMDB), which is maintained by the configuration management process. The following figure depicts the relationship between the processes and the dependency at the CMDB:



Unicenter CMDB

The CMDB is the base for all changes in the infrastructure and acts as a reference point for all other processes within the ITIL methodology. When this process is not implemented properly, some supported groups may opt to initiate suboptimum processes to reach their goals. This ultimately leads to an overall performance degradation of the ITIL implementation. Unicenter ServicePlus Service Desk supports the configuration management process.

Using Unicenter ServicePlus Service Desk in conjunction with its companion products — Unicenter® Asset Management and Unicenter® Argis® Portfolio Asset Management — further enhances this capability.

The following items are critical to this process:

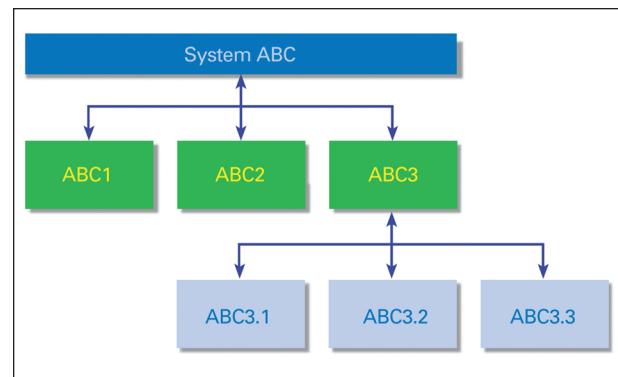
- CI, which is the component of an infrastructure that is (or will be) under the control of configuration management. CIs may vary widely in complexity, size and type, ranging from an entire system to a single module or minor hardware component.
- CMDB, which is a database that contains all relevant details of each CI, along with details of the important relationships between CIs.

This leads us to concur with the itSMF, wherein the configuration management process is to “provide a logical model of the IT infrastructure by identifying, controlling, maintaining and verifying the versions of all configuration items in existence.”

Unicenter ServicePlus Service Desk provides one part of the complete solution that comprises the complete CMDB. The following sections explain the role that Unicenter ServicePlus Service Desk plays.

## Configuration Management and Unicenter ServicePlus Service Desk

The figure below is a typical representation of the relationships of CIs in a CMDB. It indicates the dependencies of servers to applications and vice-versa. It also represents the relation of the services to the business processes within an organization. Unicenter ServicePlus Service Desk supports this approach out of the box and establishes the relationship among the incident, problem and change management processes. This allows configuration managers to determine impact in real time by looking at the current state of the CI itself.



Unicenter CMDB

The base configuration can be derived from a variety of sources. The data, including the relationships, will come primarily from Unicenter Asset Management, which monitors the hardware and software relations as well as the relation to the primary users of the CIs. Based on this data feed, Unicenter ServicePlus Service Desk allows the configuration manager to model the CMDB according to the business model of the organization. By applying business rules to the CIs, one is effectively driving the other ITIL processes. Typical business rules that can be implemented in Unicenter ServicePlus Service Desk include:

- Impact
- Default incident, problem and change areas
- Business impact
- Key relationships to business processes
- SLA definition
- Subject matter experts

Data stored in this part of the CMDB is transparently available to all other components of the Unicenter ServicePlus Service Desk application.

Additionally, Unicenter ServicePlus Service Desk provides support for knowledge documents about the CIs. The knowledge tool documents provide in-context support describing processes, services and CIs. Support analysts have access to this information on-demand.

Once all CIs are defined in the CMDB using Unicenter ServicePlus Service Desk and its companion products, Unicenter ServicePlus Service Desk allows you to support planning, identification, control, status accounting, verification and auditing. (Note: all CIs within the infrastructure use a single logical data model.)

### Key Performance Indicators

The KPI indicators for the configuration management process are difficult to manifest in a report. However, proper configuration management affects other processes positively and benefits the organization as a whole. Some benefits of a well-maintained configuration are efficient, effective software rollouts and better license compliance rates within the organization. The overall result is a positive impact on the business.

The following list highlights the value proposition of a well-executed CMDB using Unicenter ServicePlus Service Desk:

- **Controlling valuable CIs.** Configuration management helps IT managers to know what assets they have, who is responsible for their safekeeping and whether the actual inventory matches the official one.
- **Making software changes visible.** Such visibility can be used to trigger investigations by IT management into changes that may be needed for data protection, license management and regulatory compliance.
- **Supporting and improving release management.** Configuration management information supports the rollout across distributed locations by providing information on the versions of CIs and changes incorporated into a release.
- **Improving security by controlling the versions of CIs in use.** This makes it more difficult for CIs to be accidentally or maliciously changed, or for erroneous versions to be added.
- **Allowing the organization to perform impact analysis and schedule changes safely, efficiently and effectively.** This reduces the risk of changes affecting the live environment.
- **Providing management with data on trends.** This data relates to trends in problems affecting particular CI types, such as those from particular suppliers or development groups, to help improve IT services. This information supports the proactive prevention of problems.

### Benefits

The real benefits and KPIs for this process are directly related to the business and its processes. In other words, if the underlying information is incomplete or “weak,” then any business decision entails an excessive risk. Unicenter ServicePlus Service Desk helps to minimize this risk. By storing accurate information on the configuration and showing the relations to other processes, IT management is in the optimal position to stay in control and make intelligent, informed business decisions.

The following benefits are generic for this process but are enhanced by Unicenter ServicePlus Service Desk:

- **Providing accurate information on CIs and their documentation.** This information supports other service management processes. For example, if a new product is available that requires a minimum configuration, configuration management can provide information for upgrade planning and replacement.

- **Facilitating adherence to legal obligations.**

Configuration management maintains an inventory of all items of software within an IT infrastructure. CIs that come to light (via configuration audits or calls to the service desk) and are not on this list, are not authorized and may not have been paid for. These illegal copies can easily be identified, for erasure or destruction.

- **Reducing the use of unauthorized software.**

Unauthorized software and non-standard and/or variant builds all increase complexity and support costs. As such, any reduction in their occurrence can help an organization.

- **Helping with financial and expenditure planning.**

Configuration management provides a complete list of CIs. From this list, it is easy to produce expected maintenance costs and license fees, maintenance contracts, license renewal dates, CI life expiration dates and CI replacement costs (provided that this information is stored). By providing this information, configuration management contributes to IT financial planning.

- **Contributing to contingency planning.** The CMDB and secure libraries facilitate the restoration of IT services in the event of a disaster by identifying the required CIs and their location.

## Conclusion

ITIL provides best practice guidelines for implementing IT service management. It assists in aligning IT services with current and future needs of a business and the customers it supports. These best practices are designed to improve the overall quality of delivered IT services and to reduce the long-term cost of service provisioning.

CA solutions facilitate the realization of these goals. Our vision is that currently distinct disciplines — operations, storage, security and life cycle management — should be tightly integrated. By designing our products to interact with each other, leveraging common services (that is, software

components that perform reusable functions across multiple applications), and developing a central management database that will provide a unified view of all aspects of the enterprise and how they relate to business activities and needs, we have laid the foundation for a truly business-centric IT organization.



*CA's Enterprise Infrastructure Management solution*

With comprehensive, cross-disciplinary information at their fingertips, IT organizations will be able to fully understand how all IT resources are being used across the organization, offer services specifically tailored to meet the needs of individual departments and even provide executives with feedback about exactly how expenses are being incurred. All this enables managers to make better decisions about how to direct business activities and assets.

CA has delivered ITIL-based Service Management solutions for several years and currently has thousands of customers using these ITIL-verified tools. Today, our ITIL-compliant products are easy to implement and maintain, meeting both customer and management expectations

**For more information, visit [ca.com/serviceplus](http://ca.com/serviceplus)**



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